

REMARKS

I. Introduction

Claims 2-8, 11, and 12 are pending in this application. Of those claims, claim 11 has been withdrawn from consideration pursuant to the provisions of 37 C.F.R. §1.142(b). In this Amendment, claims 2 and 12 have been amended. Care has been exercised to avoid the introduction of new matter. Support for the amendments of claims 2 and 12 can be found in, for example, Fig. 2 (see, e.g., ST218, ST228, and ST229) and relevant description of the specification.¹

Claims 2-8 and 12 are now active in this application, of which claims 2 and 12 are independent.

II. The Rejection of the Independent Claims

Claims 2 and 12 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Applicant Admitted Prior Art (“AAPA”) in view of Kato.

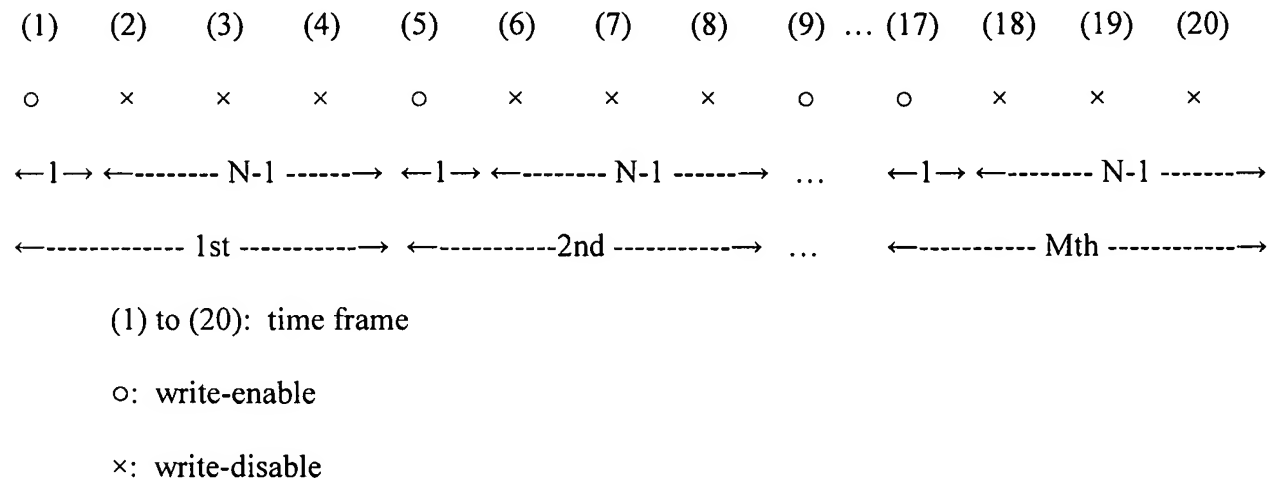
Applicant submits that the AAPA and Kato, either individually or in combination, do not disclose or suggest a data transfer control system including all the limitations recited in independent claim 2. Specifically, the applied combination does not teach, at a minimum, the following limitation of claim 2:

bus cycle controlling means for controlling the data transfer such that, during a burst transfer, in a single bus cycle, during the single bus cycle, the bus is driven continuously and a write control line of the bus is placed in a write-enabled state for a one-word data transfer period and is placed in a write-disabled state for an (N-1) words data transfer period and the operation is repeated for M(1<M) times

¹ For example, steps ST208 to ST226 are performed repeatedly until it is determined that the value of transferred-word number counter 109 is equal to that of the transferred-word number register 103 at step ST218. Steps ST209 to ST218 exemplarily correspond to a write-enable period, and steps ST219 to ST223 exemplarily correspond to a write-disable period.

periodically, the M being the number of words of data which are to be transferred and stored in the transferred-word storing means....

The claimed subject matter will be explained in accordance with the following figure where it is assumed that N is 4 (N is the number stored in the transfer interval storing means), and M is 5 (M is the number of words of data to be transferred and stored in the transferred-word number storing means). During (1) to (20) time frame, the operation is repeated five times to transfer five pieces of data to destination addresses, respectively, in a single bus cycle.



According to Kato, it is possible to write DMA transferred data by bypassing JUMP START ADDRESS (16) and JUMP END ADDRESS (18). This corresponds to a situation where M=1 in claim 2. In other words, Kato addresses what happens only in, for example, time frame (1) to (4) in the above figure, where data is transferred at period (1), but not transferred at periods (2) to (4). However, Kato does not teach repeating the writing sequence for plural times during a single bus cycle. Thus, Kato cannot write data in equally-separated addresses at high-speed. In contrast, the claimed subject matter can repeat such an operation M ($1 < M$) times during a single bus cycle. The AAPA is silent on the above-discussed limitation of claim 2.

Based on the foregoing, the AAPA and Kato, either individually or in combination, do not disclose or suggest a data transfer control system including all the limitations recited in independent claim 1. The above discussion is applicable to independent claim 12. Applicant, therefore, respectfully solicits withdrawal of the rejection of claims 2 and 12, and favorable consideration thereof.

III. The Rejection of the Dependent Claims

Claims 3 and 7 have been rejected under 35 U.S.C. §103(a) as being unpatentable over the AAPA and Kato, and further in view of Sheafor et al. and Kreifels; claim 4 has been rejected under 35 U.S.C. §103(a) as being unpatentable over the AAPA and Kato, and further in view of Fabre; claim 5 has been rejected under 35 U.S.C. §103(a) as being unpatentable over the AAPA, Kato, Sheafor et al., and Kreifels, and further in view of Fabre; claim 6 has been rejected under 35 U.S.C. §103(a) as being unpatentable over the AAPA and Kato, and further in view of Kreifels; and claim 8 has been rejected under 35 U.S.C. §103(a) as being unpatentable over the AAPA, Kato, and Fabre, and further in view of Kreifels.

Claims 3-8 depend from independent claim 1. Applicant incorporates herein the arguments made in response to the rejection of independent claim 1 under 35 U.S.C. §103 for obviousness predicated upon the AAPA and Kato. The Examiner's additional comments and reference to Sheafor et al., Kreifels, and Fabre do not cure the previously argued deficiencies of the applied combination of the AAPA and Kato.

Applicant, therefore, respectfully solicits withdrawal of the rejection of claims 3-8 and favorable consideration thereof.

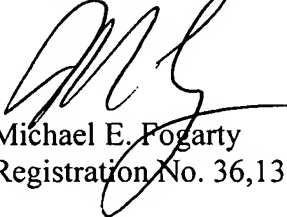
IV. Conclusion

It should, therefore, be apparent that the imposed rejections have been overcome and that all pending claims are in condition for immediate allowance. Favorable consideration is, therefore, respectfully solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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